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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,839	01/19/2005	Graham Hodgson	66221-0037	2407

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EXAMINER	
DAM, DUSTIN Q	

ART UNIT	PAPER NUMBER
1795	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/521,839	HODGSON ET AL.	
	Examiner	Art Unit	
	DUSTIN Q. DAM	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 24-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 24-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 1, 2008 has been entered.

2. Claims 1 and 24-45 are currently pending and have been fully considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 24, 26-33, 35-38, and 41-45 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by JACKSON (U.S. PG-Pub 2004/0037768 A1).

a. With regards to claim 1, JACKSON discloses an apparatus for the generation of fluorine gas by electrolysis of hydrogen fluoride (4th sentence, **[0004]**), the apparatus comprising a plurality of individual fluorine generating cassettes (14, FIG. 1 "Cell 1 &

Cell 2"), said individual fluorine generating cassettes being operable connected to a fluorine gas distribution system (including storage vessel 44 and fluorine gas feed line 46, FIG. 1) which is structurally capable of providing fluorine gas for the remote use and consumption of said fluorine gas, said fluorine generating cassettes being individually isolatable from said gas distribution system (via open/close valve system; see FIG. 3 & **[0050]**) and removable from the apparatus (FIG. 7 discloses transportable fluorine generating cassette).

b. With regards to claim 24, JACKSON discloses an apparatus wherein said fluorine generating cassettes are connectable to the apparatus by a valve mechanism (open/close valve system; see FIG. 3 & **[0050]**) which is structurally capable of isolation and disconnection of said fluorine generative cassettes from the apparatus.

c. With regards to claims 26-29, JACKSON discloses an apparatus wherein said fluorine generating cassettes are substantially identical to each other and are provided with wheels (wheels 450, FIG. 7), the fluorine generating cassettes individually are provided with an enclosure (such as cart 400, FIG. 7), and the plurality of the cassettes being enclosed in a common housed main enclosure (such as cabinet 200 disclosed in **[0093-0094]** and depicted in FIG. 8A-C & FIG. 9A-D).

d. With regards to claims 30 and 31, JACKSON discloses an apparatus wherein each individual said fluorine enclosures is connectable (via open/close valve system; see FIG. 3 & **[0050]**) to extraction equipment (**[0053]** "vacuum on the trap") and to a scrubbing system (32, FIG. 1 "NaF trap") configured to remove fluorine gas from said main enclosure.

e. With regards to claim 32, JACKSON discloses an apparatus wherein a fluorine generating cell within said fluorine generating cassette is fixed to said individual enclosure (such as cell 14 in enclosure 400, FIG. 7) such that said enclosure provides a cathode connection to said cell (electrolysis of fluorine at the anode, **[0004]**, inherently comprise a cathode in which enclosure 400 provides the entire cell including the cathode connection).

f. With regards to claim 33, JACKSON discloses an apparatus wherein said individual enclosures include a framework having paneling (**[0092]** "welding" "five pieces of metal" "lid").

g. With regards to claim 35, JACKSON discloses an apparatus further comprising at least one fluorine purification cassette (32 & 36, FIG. 1) which is structurally capable of passing fluorine of said fluorine generating cassettes, said purification cassette comprising a container having chemical traps and filters structurally capable of removing unwanted material from the fluorine gas output (**[0050-0051]**).

h. With regards to claim 36 and 37, JACKSON discloses an apparatus further comprising at least one fluorine buffer cassette (40 & 44, FIG. 1) connected in a fluorine line downstream of said at least one fluorine purification cassette, said fluorine buffer cassette comprising a plurality of separate holding tanks (40 & 44, FIG. 1) for holding fluorine gas under compression (**[0055]**).

i. With regards to claim 38, JACKSON discloses an apparatus further including purging means (**[0053]** "purge the NaF traps") connected to pipe work through which

fluorine flows which includes a source of purging gas (**[0053]** "nitrogen") structurally capable of removing reactive fluids from said pipe work.

j. With regards to claim 41, JACKSON discloses an apparatus wherein each of said individual fluorine generating cassettes are further provided with a power supply unit structurally capable of supplying power for any intended use (**[0057]** "power supply").

k. With regards to claim 42, JACKSON discloses a method for the operation and maintenance of an apparatus for producing fluorine by the electrolysis of hydrogen fluoride (4th sentence, **[0004]**), the method comprising the steps of providing a plurality of fluorine generating cassettes (14, FIG. 1 "Cell 1 & Cell 2") operably connected to a fluorine gas distribution system for the remote use and consumption of the fluorine (including storage vessel 44 and fluorine gas feed line 46, FIG. 1), isolating any individual fluorine generating cassettes from the fluorine gas distribution system and from each other (via open/close valve system; see FIG. 3 & **[0050]**), and disconnecting and removing the isolated fluorine generating cassettes from the apparatus (via enclosure 400 & see **[0091]** "transporting") without interruption of supply of fluorine from the remaining fluorine generating cassettes (FIG. 8A-C and FIG. 9A-D discloses individual fluorine cassettes being made separable from one another; FIG. 1 discloses Cell 1 & Cell 2 connectable in parallel).

l. With regards to claim 43, JACKSON discloses a method further comprising the steps of providing the fluorine generating cassettes with sufficient generating capacity such that a total demand for fluorine may be met by less than the total number of fluorine generating cassettes within said apparatus (FIG. 1 discloses multiple cassettes or cells,

FIG. 1 also discloses storage tank 44 and fluorine gas feed line 46, at any time compressed gas storage tank 44 can supply the "total demand" gas feed to line 46 with 1 or none of the fluorine gas generating cassettes being operable if there is any amount of compressed stored gas in tanks 40 or 44).

m. With regards to claim 44, JACKSON discloses a method further comprising the step of removing an individual fluorine generating cassette from the apparatus and taking said cassette to a remote site (via wheels 450, FIG. 7 & see **[0089-0092]** "leak or rupture") for maintenance while still maintaining fluorine output to meet demand (FIG. 1 discloses multiple cassettes or cells, FIG. 1 also discloses storage tank 44 and fluorine gas feed line 46, at any time compressed gas storage tank 44 can supply the "total demand" gas feed to line 46 with 1 or none of the fluorine gas generating cassettes being operable if there is any amount of compressed stored gas in tanks 40 or 44).

n. With regards to claim 45, JACKSON discloses a method further comprising the step of providing each individual fluorine generating cassette with a power supply at least for electrolysis, fluorine purification, fluorine compression, and a fluorine storage tank/buffer (**[0057]** "power supply").

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over JACKSON (U.S. PG-Pub 2004/0037768 A1).

a. With regards to claims 39 and 40, independent claim 1 is clearly anticipated by JACKSON under 35 U.S.C. 102(e) as discussed above. JACKSON discloses an apparatus for fluorine gas production but does not disclose the claimed relative sizes of the apparatus. However, the relative sizes would have been an obvious choice of design for the desired en application (See MPEP 2144.04{IV}{A}).

8. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over JACKSON (U.S. PG-Pub 2004/0037768 A1) in view of ROSENBERG et al. (U.S. Patent 6,024,847).

a. Independent claim 1 and dependent claim 24 is clearly anticipated by JACKSON under 35 U.S.C. 102(e) as discussed above. JACKSON discloses an apparatus comprising a valve mechanism (open/close valve system; see FIG. 3 & **[0050]**) comprising a space connected to a vacuum extraction (**[0053]** "vacuum on the trap") and scrubbing system (32, FIG. 1 "NaF trap") configured to remove fluorine gas from said fluorine generating cassettes.

JACKSON does not appear to explicitly disclose an apparatus wherein the valve mechanism is a double isolation valve.

However, ROSENBERG et al. discloses a double isolation valve (24, FIG. 4) in order to reduce the risk of introducing contaminants (line 20-65, column 10).

Thus, at the time of the invention, it would have been obvious to a person having ordinary skill in the art to modify the apparatus, as disclosed by JACKSON, to include using a double isolation valve, as disclosed by ROSENBERG et al., in order to reduce the risk of introducing contaminants into the system.

9. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over JACKSON (U.S. PG-Pub 2004/0037768 A1) in view of GANGE (U.S. Patent 4,121,130).

a. Dependent claim 32 is clearly anticipated by JACKSON under 35 U.S.C. 102(e) as discussed above. JACKSON discloses an apparatus for fluorine gas production comprising a cathode.

JACKSON does not appear to explicitly disclose an apparatus wherein the cathode connection is at 0 volts relative to earth or grounded.

However, GANGE et al. discloses a cathode and discloses grounding the cathode in order to have a user desired level of emission given the specific dimension of the cathode (line 23-48, column 3).

Thus, it would have been obvious at the time of the invention, for a person with ordinary skill in the art to modify the apparatus, as disclosed by JACKSON, to include grounding the cathode, as disclosed by GANGE, because it would provide of a user desired level of emission given the specific dimension of the cathode.

Response to Arguments

10. Applicant's arguments with respect to claims 1 and 24-45 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DUSTIN Q. DAM whose telephone number is (571)270-5120. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571)272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nam X Nguyen/
Supervisory Patent Examiner, Art Unit 1753

dd
October 14, 2008